Amendments to Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A system for analyzing a software program executing on a target system, the target system accessing a predetermined memory location and applying tags to the data bus of the target system, each of the tags having a tag type and tag data when an executable tag statement instrumented in the software program is executed, the system comprising:

a tag detection circuit coupled to an address bus of the target system to detect access of the predetermined memory location, and generate in response thereto a detection signal indicative of emission of a tag by the target system;

a trace filter coupled to the tag detection circuit and the data bus of the target system to capture one of the tags in response to receiving the detection signal, the trace filter having a decoder circuit to decode the tag type of the captured tag, and a comparator circuit coupled to the decoder circuit to receive the tag type and determine whether the captured tag is collectable according to filtering criteria, wherein the trace filter is adapted to implement a filter table for storing the filtering criteria, the filter table having a list of tag types and associated collection flags indicating that the respective tag type is collectable when set; and

a collection device coupled to the trace filter and structured to collect the tag data of collectable tags.

Claim 2 (original): The system of claim 1 wherein the trace filter is programmable to allow the filtering criteria to be programmed.

Claim 3 (original): The system of claim 1, further comprising a probe through which the tag detection circuit is coupled to the address bus and the trace filter is coupled to the data bus.

Claim 4 (original): The system of claim 1, further comprising a host processor coupled to the collection device to receive and process the tag data of collectable tags.

Claim 5 (original): The system of claim 1 wherein the collection device comprises a tag buffer to temporarily store the tag data of collectable tags.

Claim 6 (original): The system of claim 5, further comprising a timestamp generator coupled to the tag buffer to append timestamp data to the tag data of collectable tags when stored in the buffer.

Claim 7 (original): The system of claim 1 wherein the collection device comprises a processor to collect and process the tag data of collectable tags.

Claim 8 (canceled).

Claim 9 (currently amended): A system for analyzing a software program executing on a target system, the target system generating tags having a tag type and tag data in response to executing tag statements presents in the software program, the system comprising:

a probe coupled to a data bus of the target system;

a trace buffer coupled to the probe to capture tags generated by the target system, the trace buffer comprising:

a decoder coupled to the data bus through the probe to decode the tag type of the captured tags;

a tag filter coupled to the decoder to filter out non-collectable tag types and collect the tag data of collectable tag types in accordance to a programmable filtering criteria, wherein the programmable filtering criteria is implemented by a filter table having a collection flag associated with each tag type, the collection flag indicative of whether the respective tag type is collectable; and

a buffer coupled to the tag filter to store the collected tag data; and

a processor coupled to the trace buffer to process the collected tag data.

Claim 10 (original): The system of claim 9 wherein the trace buffer further comprises a timestamp generator coupled to the buffer to append timestamp information to the stored tag data.

Claim 11 (canceled).

Claim 12 (currently amended) A system for analyzing software executing in a target system, the target system emitting tags having a tag type and tag data when an executable tag statement instrumented in the software program is executed, the system comprising:

a detection means detecting tags emitted from the target system;

a tag filtering means filtering the emitted tags according to a filtering criteria;

a collecting means collecting tags satisfying the filtering criteria; and

a processing means processing the collected tags; and

wherein the tag filtering means includes a programmable means to program the filtering criteria and the programmable means comprises a filter tag collected by the collecting means, the filter tag having tag data reprogramming the filtering criteria in accordance with the tag data of the filter tag.

Claims 13-14 (canceled).

Claim 15 (currently amended): The system of claim 12 20 wherein the tag filtering means comprises:

a decoding means decoding the tag type of the emitted tags; and

a comparator means comparing the decoded tag type of the filtering criteria, the comparator means further disregarding tags having tag types determined to be not collectable, and selecting tags having tag types determined to be collectable.

Claim 16 (original): The system of claim 12 wherein the collection means comprises a tag buffer for temporarily storing collected tags prior to processing by the processing means.

Claim 17 (original): The system of claim 16, further comprising a timestamp generator for appending timestamp data to the tag data when stored in the tag buffer.

Claim 18 (currently amended): The system of claim 12 13 wherein the processing means comprises a host processor.

Claim 19 (currently amended): A method for analyzing software executing in a target system, the target system generating tags having a tag type and tag data when an executable tag statement instrumented in the software program is executed, the method comprising:

detecting tags generated by the target system;

filtering the detected tags according to a programmable filtering criteria; and

collecting tags satisfying the programmable filtering criteria; and

reprogramming the programmable filtering criteria, wherein reprogramming the

programmable filtering criteria comprises collecting a filter tag and setting a collection flag for

the tag types in accordance with the tag data of the filter tag.

Claim 20 (original): The method of claim 19, further comprising processing the collected tags.

Claim 21 (original): The method of claim 19 wherein filtering the emitted tags comprises:

decoding the tag type of the detected tags;

determining a programmable collection status for each of the tag types in accordance

with the programmable filtering criteria;

disregarding tags having tag types determined to be not collectable; and

selecting tags having tag types determined to be collectable.

Claim 22 (original): The method of claim 19 wherein collecting tags comprises storing the tag

data in a tag buffer.

Claim 23 (original): The method of claim 22, further comprising appending timestamp data to

the tag data when stored in the tag buffer.

Claims 24-25 (canceled).